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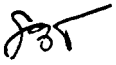
## DEPARTMENT OF NATURAL RESOURCES

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### MEMORANDUM

DATE: AUG 05 2005

TO: Regional & Central Office Managers and Water Pollution Control Permit Writers

FROM: Scott B. Totten, Director   
Water Protection and Soil Conservation Division

SUBJECT: Revision of Missouri State Operating Permit Language for Whole Effluent Toxicity (WET) Tests, Uniform Application of Proposed Guidance and New WET Test Reporting Form

Effective July 15, 2005, upon revision, renewal, modification, or issuance, all Missouri State Operating Permits under the National Pollution Elimination Discharge System will incorporate use of the following guidelines for determining the applicability and requirements for Whole Effluent Toxicity (WET) testing. WET test reports shall be submitted on the attached form which is also available on the department's Web site.

The assignment of a WET test as a permit condition is appropriate for any permitted discharge to waters of the state. A WET test may be required either through the best professional judgement of the permit writer, or Water Quality Review (WQR). WET tests will be required for all permitted facilities meeting the following criteria:

- ☐ All Major Dischargers, all facilities designated as Major Dischargers and all facilities with design flows equal to or greater than 1 million gallons per day or having an average discharge equal to or greater than 1.55 cubic feet per second over any consecutive 24 hour period shall require a WET test to be performed no less than once annually.
- ☐ Permits for facilities that are exceeding or routinely exceed their design flows shall require a WET test to be performed no less than once annually. This condition shall also be applied when the department grants any extension permitting the exceedence of facility design flows.

The suitability of test type, the test duration, and monitoring frequency is usually determined in a WQR. However, in the absence of a WQR the permit writer is required to use best professional judgement within the confines of this guidance.

- ☐ For most municipal, domestic sewage dischargers, one test per year during the period of lowest stream flow is usually sufficient. The permit writer using best professional judgment may determine that biannual, quarterly, or monthly testing is more appropriate.

- ❑ For industrial dischargers or other dischargers that may alter their production processes throughout the year, or facilities which may handle large quantities of toxic substances, or substances that are toxic in large amounts, testing shall occur at least twice annually. The permit writer using best professional judgment may determine that quarterly, or monthly testing is more appropriate.
- ❑ For facilities that have been granted seasonal relief of numeric limitations, WET testing should be scheduled to occur during each period in which numeric effluent limitations change, but in any event testing shall occur no less than twice annually.
- ❑ In the event that the testing schedule is not included in the WQR, the permit writer should seek the advice of an experienced aquatic biologist or appropriately trained staff to determine when testing should be performed. This is because agency concerns include consideration for the reproductive cycles and seasonal stressors that may adversely affect stream biota. The Missouri Department of Natural Resources Environmental Services Program may be solicited to provide such advice.

The following conditions shall apply to all WET tests required in any Missouri State Operating Permit.

- ❑ For Missouri State Operating Permits, standard language has been developed and approved for inclusion with all permits for which a WET test is required. It is mandatory that this standardized language be used for new permits and that any permits which are modified or renewed have their old language replaced with the new, standardized language. The language is commonly referred to as "Special conditions for WET testing" and can be found at T:\New Library\WET tests\71-single.doc and T:\New Library\WET tests\71-multiple.doc on the department's network drive.
- ❑ A standard form for use by permittees to report the results of WET tests to the agency shall be utilized by all permittees in reporting WET test results. Submission of the completed form is a permit requirement. The form does not take the place of a laboratory report but shall accompany the laboratory report as submitted by the permittee. The WET Test Report Form may be found on the department Web site at: <http://www.dnr.mo.gov/oac/forms/780-1899.pdf>. No laboratory report shall be submitted, filed, copied, or distributed except in full.
- ❑ For WET testing of stormwater discharges or runoff, a grab sample shall be required to be collected for analysis within three hours of the first occurrence of discharge or runoff. A 24-hour composite sample shall not be required for the analysis of stormwater discharges.
- ❑ For WET testing of continuous discharges or runoff, a 24-hour composite sample shall be required to be collected for analysis.
- ❑ Unless otherwise indicated in a WQR, the Multiple Dilution method for determining effluent toxicity [10 CSR 20-7.031(3)(I)2.B.] shall not be required for facilities where the Allowable Effluent Concentration (AEC\*) is calculated to be 100% except during occurrences of accelerated monitoring performed in response to failure of a regularly scheduled test.
- ❑ Single dilution WET tests are only allowable for facilities with an AEC determined to be 100%.

- ❑ Multiple dilution WET tests are required where an AEC less than 100% is determined in conformance with the results of a WQR conducted by the department using existing state and/or federal guidelines. Discharge of toxic substances in toxic amounts is a violation of the national policy established in the federal Clean Water Act at Section 101(a)(3) (33 U.S.C. 1251 et seq.) and a definitive analysis is required to provide assurance that Missouri is in compliance with this national policy. Exceptions to this requirement are provided for below under regulatory relief.
- ❑ The duration of either test method may be assigned as either 48 hours or 96 hours. In most cases, a 48-hour test is assigned. The 96-hour test duration is usually reserved for special cases such as the treatment technology used or type of waste is not completely understood, or in situations where a 48-hour test is otherwise deemed unsuitable to satisfy concerns for aquatic life protection. Such a determination may be made by either a WQR or the best professional judgement of the permit writer.
- ❑ All WET tests shall be performed with the most sensitive of at least two (2) representative, diverse species. Exceptions to this requirement constitute a variance for Missouri Water Quality Standards and may only be granted by the Clean Water Commission.
- ❑ The most consistent, available data for Missouri indicate that *Ceriodaphnia dubia* and *Pimephales promelas* are the most appropriate species for use in WET tests for most waters. Use of suitably sensitive species other than *C. dubia*, and *P. promelas* requires the completion of a WQR.

Regarding regulatory relief and deviations from this guidance:

- ❑ In the interests of providing a method for regulatory relief, it is acceptable where a facility has submitted passing results from ten consecutive, regularly scheduled, multiple dilution WET tests conducted over one or more permit cycles, to allow the facility to instead utilize the single dilution method at a prescribed AEC but retain the standard accelerated monitoring conditions from the permit language. Alternatively, in lieu of switching to the single dilution method, the permit writer may determine that a reduction in monitoring frequency is more appropriate.
- ❑ Any deviation from any part of this guidance must first be justified by a recently performed WQR *and* approved in advance of the Public Notice by the Director of the Water Protection Program or his designee either in writing or via e-mail. Documentation of this approval shall be filed with the WQR in the facility's permit folder.

\*The Allowable Effluent Concentration (AEC) is the percent of effluent calculated to be present at the downstream edge of the zone of initial dilution. As defined at 10 CSR 20-7.031 (1) (V), the zone of initial dilution is a small area of initial mixing below an effluent outfall beyond which acute toxicity criteria must be met.

The reasons for this change are 1) the previous permit language was unclear and to reflect changes in agency organization 2) to provide greater consistency in the department's requirements for WET testing, 3) to streamline the reporting process and provide a means for both permittees and the department to receive WET test reports in a consistent format with conspicuous placement of test results, 4) to make review of WET tests more efficient leading to

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more timely response by both the agency and permittees, and 5) to reduce paper consumption and requirements for storage by providing a concise summary of test results and documented reference to the actual report on a single page.

Thank you for your prompt attention to this matter. If you have any questions regarding any part of the proposed guidance, please contact Scott Goodin.

SBT:sgb

Attachment